

WHAT IS CLAIMED IS:

1. A composition, comprising:
a first solvent, wherein said first solvent is able to remove adherent deposits from surfaces and substrates; and,

5 2. a carrier solvent, wherein said carrier solvent is an exempt volatile organic compound (exempt VOC) or a non-volatile organic compound (non-VOC), wherein a volatile organic compound (VOC) is any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates and ammonium carbonate, which

10 3. participates in atmospheric photochemical reactions.

Sub B3

15 4. The composition of claim 1, wherein said first solvent is from about 0.1% to about 50.0 weight %; and said exempt VOC or non-VOC carrier solvent is from about 50.0% to about 99.9 weight %.

Sub D20

20 5. The composition of claim 1, wherein said first solvent is an acetal, ketal or ortho ester.

6. The composition of claim 1, wherein said first solvent is methylal.

7. The composition of claim 1, wherein said carrier solvent is a petroleum distillate.

25 8. The composition of claim 1, wherein said carrier solvent is a mixture of Light Hydrotreated Petroleum Distillates and water.

9. The composition of claim 1, further comprising at least one additive.

10. The composition of claim 9, wherein said additive is a halogenated hydrocarbon second solvent.

30 11. The composition of claim 10, wherein said second solvent is n-propyl bromide.

VOC

Sub B4

112^{2nd}

112^{1st}

FFL

12. The composition of claim 9, wherein said additive is a cleaner.

13. The composition of claim 12, wherein said cleaner is ethanol.

5 14. The composition of claim 9, wherein said additive is a fragrance.

15. The composition of claim 9, wherein said first solvent is from about 0.1% to about 50.0 weight %; said carrier solvent is from about 10.0% to about 99.9 weight %; and said at least one additive is selected from the group consisting of: a second solvent from about 0% to about 20.0 weight %; a cleaner from about 0% to about 20.0 weight %; a surfactant from about 0% to about 20.0 weight %; a coupling agent from about 0% to about 20.0 weight %; and, a fragrance from about 0% to about 20.0 weight %.

10 15. 16. The composition of claim 15, wherein said first solvent is methylal; said carrier solvent is Light Hydrotreated Petroleum Distillates; and, said at least one additive is selected from the group consisting of: said cleaner and said fragrance.

17. The composition of claim 16, wherein said first solvent is from about 0.1% to about 50.0 weight % methylal; said carrier solvent is from about 10.0% to about 99.9 weight % Light Hydrotreated Petroleum Distillates; said cleaner is from about 0% up to about 20.0 weight % ethanol; and, said fragrance is from about 0% up to about 20.0 weight %.

20 25. 18. The composition of claim 17, wherein said first solvent is 6.2 weight % methylal; said carrier solvent is 92.0 weight % Light Hydrotreated Petroleum Distillates; said cleaner is 0.8 weight % ethanol; and, said fragrance is 1.0 weight %.

19. The composition of claim 15, wherein said first solvent is 30 methylal; said carrier solvent is Light Hydrotreated Petroleum Distillates;

and, said at least one additive is selected from the group consisting of: said second solvent, said surfactant and said fragrance.

20. The composition of claim 19, wherein said first solvent is from about 0.1% to about 50.0 weight % methylal; said carrier solvent is
5 from about 10.0% to about 99.9 weight % Light Hydrotreated Petroleum Distillates; said second solvent is from about 0% to about 50.0 weight % n-propyl bromide; said surfactant is from about 0% to about 20.0 weight % t-octylphenoxyethoxyethanol or C_8 - C_{10} -alkyl-oxy-polyethylene-oxy-polypropylene-oxy-ethanol; and, said fragrance is from about 0% to about
10 20.0 weight %.

21. The composition of claim 20, wherein said first solvent is 2.0 weight % methylal; said carrier solvent is 84.0 weight % Light Hydrotreated Petroleum Distillates; said second solvent is 8.0 weight % n-propyl bromide; said surfactant is 5.0 weight % t-octylphenoxypoly-
15 ethoxyethanol or C_8 - C_{10} -alkyl-oxy-polyethylene-oxy-polypropylene-oxy-ethanol; and, said fragrance is 1.0 weight %.

22. The composition of claim 15, wherein said first solvent is methylal; said carrier solvent is water; and, said at least one additive is selected from the group consisting of: said cleaner, said surfactant, said
20 coupling agent and said fragrance.

23. The composition of claim 22, wherein said first solvent is from about 0.1% to about 50.0 weight %; said carrier solvent is from about 10.0% to about 99.9 weight %; said cleaner is from about 0% to about 20.0% weight %; said surfactant is from about 0% to about 20.0 weight %; said coupling agent is from about 0% to about 20.0 weight %; and, said fragrance is from about 0% to about 20.0 weight %.

24. The composition of claim 23, wherein said first solvent is from about 0.1% to about 50.0 weight % methylal; said carrier solvent is from about 10.0% to about 99.9 weight % water; said cleaner is from
30 about 0% to about 20.0% weight % ethanol; said surfactant is from about 0% to about 20.0 weight % t-octylphenoxyethoxyethanol or

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C₈-C₁₀-alkyl-oxy-polyethylene-oxy-polypropylene-oxy-ethanol; said coupling agent is from about 0% to about 20.0 weight % 2-butoxyethanol; and, said fragrance is from about 0% to about 20.0 weight %.

5 25. The composition of claim 24, wherein said first solvent is 11.9 weight % methylal; said carrier solvent is 71.3 weight % water; said cleaner is 0.8 weight % ethanol; said surfactant is 2.7 weight % t-octylphenoxy polyethoxyethanol or C₈-C₁₀-alkyl-oxy-polyethylene-oxy-polypropylene-oxy-ethanol; said coupling agent is 11.9 weight % 2-butoxyethanol; and, said fragrance is 1.0 weight %.

10 26. The composition of claim 1, wherein said composition contains less than or equal to 50 weight % VOCs.

15 27. The composition of claim 1, wherein said composition contains less than or equal to 40 weight % VOCs.

28. The composition of claim 1, wherein said composition contains less than or equal to 35 weight % VOCs.

29. The composition of claim 1, wherein said composition contains less than or equal to 25 weight % VOCs.

30. The composition of claim 1, wherein said composition
20 contains less than or equal to 22 weight % VOCs.

31. The composition of claim 1, wherein said composition contains less than or equal to 10 weight % VOCs.

32. The composition of claim 1, wherein said composition contains less than or equal to 7 weight % VOCs.

25 33. The composition of claim 1, wherein said composition contains less than or equal to 5 weight % VOCs.

34. The composition of claim 1, wherein said composition contains less than or equal to 4 weight % VOCs.

35. The composition of claim 1, wherein said composition
30 contains less than or equal to 3 weight % VOCs.

Sub Bb

36. A method of releasing adherent deposits from a surface or substrate, comprising:

applying an exempt volatile organic compound (exempt VOC) or a non-volatile organic compound (non-VOC) to said deposit; and,

5 removing said released deposit from said surface or substrate.

37. The method of claim 36, wherein said non-VOC is Light Hydrotreated Petroleum Distillates.

38. The method of claim 36, wherein said released deposit is physically removed.

10 39. The method of claim 36, wherein said released deposit is removed by wiping.

40. The method of claim 36, wherein said released deposit is removed by directing a stream of water against said released deposits.

15 41. A method of releasing adherent deposits from a surface or substrate, comprising:

applying a low volatile organic (low VOC) composition to said deposits; and,

removing said released deposits from said surface or substrate.

20 42. The method of claim 41, wherein said low VOC composition comprises:

a first solvent, wherein said first solvent is able to remove adherent deposits from surfaces and substrates; and,

a carrier solvent, wherein said carrier solvent is an exempt volatile organic compound (exempt VOC) or a non-volatile organic compound

25 (non-VOC), wherein a volatile organic compound (VOC) is any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates and ammonium carbonate, which participates in atmospheric photochemical reactions.

43. The method of claim 41, wherein said composition

30 comprises:

a first solvent which is 6.2 weight % methylal;

a carrier solvent which is 92.0 weight % Light Hydrotreated Petroleum Distillates;

a cleaner which is 0.8 weight % ethanol; and,

a fragrance which is 1.0 weight %.

5 44. The method of claim 41, wherein said composition comprises:

a first solvent which is 2.0 weight % methylal;

a carrier solvent which is 84.0 weight % Light Hydrotreated Petroleum Distillates;

10 45. The method of claim 41, wherein said composition comprises:
a second solvent which is 8.0 weight % n-propyl bromide;
a surfactant which is 5.0 weight % t-octylphenoxy polyethoxy-ethanol or C₈-C₁₀-alkyl-oxy-polyethylene-oxy-polypropylene-oxy-ethanol;
and,
a fragrance which is 1.0 weight %.

15 45. The method of claim 41, wherein said composition comprises:

a first solvent which is 11.9 weight % methylal;

a carrier solvent which is 71.3 weight % water;

a cleaner which is 0.8 weight % ethanol;

20 45. The method of claim 41, wherein said composition comprises:
a surfactant which is 2.7 weight % t-octylphenoxy polyethoxy-ethanol or C₈-C₁₀-alkyl-oxy-polyethylene-oxy-polypropylene-oxy-ethanol;
a coupling agent which is 11.9 weight % 2-butoxyethanol; and,
a fragrance which is 1.0 weight %.

25 46. The method of claim 41, wherein said released deposits are physically removed.

47. The method of claim 41, wherein said released deposits are removed by wiping.

48. The method of claim 41, wherein said released deposits are removed by directing a stream of water against said released deposits.

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49. A method of releasing adherent deposits from a surface or substrate, comprising the steps of:

(a) applying a first low volatile organic compound (low VOC) composition to said deposits;

5 (b) removing a portion of said deposits from said surface or substrate;

(c) applying a second low VOC composition to said deposits; and

(d) removing the remaining portion of said deposits from said surface or substrate;

10 wherein the steps are performed in either of the following orders:

(a), then (b), then (c), and then (d); or

(c), then (b), then (a), and then (d).

50. The method of claim 49, wherein said first low VOC composition comprises:

15 a first solvent, wherein said first solvent is able to remove adherent deposits from surfaces and substrates; and,

a carrier solvent, wherein said carrier solvent is an exempt VOC or an non-VOC, wherein a VOC is any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or

20 carbonates and ammonium carbonate, which participates in atmospheric photochemical reactions.

51. The method of claim 49, wherein the second composition is specifically formulated to remove water and protein based stains.

52. The method of claim 49, wherein the second low VOC composition is specifically formulated to remove pen, ink, marker and dye based stains.

53. The method of claim 49, wherein the first low VOC composition comprises:

a first solvent which is 6.2 weight % methylal;

30 a carrier solvent which is 92.0 weight % Light Hydrotreated Petroleum Distillates;

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a cleaner which is 0.8 weight % ethanol; and,
a fragrance which is 1.0 weight %.

54. The method of claim 49, wherein the first low VOC composition comprises:

a first solvent which is 2.0 weight % methylal;
a carrier solvent which is 84.0 weight % Light Hydrotreated Petroleum Distillates;

a second solvent which is 8.0 weight % n-propyl bromide;
a surfactant which is 5.0 weight % t-octylphenoxyethoxy-

10 ethanol or C₈-C₁₀-alkyl-oxy-polyethylene-oxy-polypropylene-oxy-ethanol;
and,

a fragrance which is 1.0 weight %.

55. The method of claim 49, wherein the first low VOC composition comprises:

15 a first solvent which is 11.9 weight % methylal;
a carrier solvent which is 71.3 weight % water;
a cleaner which is 0.8 weight % ethanol;
a surfactant which is 2.7 weight % t-octylphenoxyethoxy-
ethanol or C₈-C₁₀-alkyl-oxy-polyethylene-oxy-polypropylene-oxy-ethanol;

20 a coupling agent which is 11.9 weight % 2-butoxyethanol; and,
a fragrance which is 1.0 weight %.

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